Express Mail Label Number: __EL 904945972 US__

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October _11_, 2001          _Cathy Bittwer_
_____Date_____          _____Signature_____

# GENERALIZER SYSTEM AND METHOD

## Background of the Invention

This invention relates generally to a system and method for generating a guide for

processing various different input data and in particular to a system and method for generalizing

a guide for the processing of input data wherein, despite changes to the input data, the guide may

5    process the input data. In a preferred embodiment, the system may be used to determine a guide

for processing an HTML or other formatted document despite changes to the formatted

document.

It is desirable to be able to automatically process a formatted document into a different

format. For example, when attempting to distribute one or more wireless web pages to one or

10    more different wireless devices with one or more different screen sizes and the like, it is desirable

to be able to process a web page automatically to generate the one or more wireless pages for the

one or more different wireless devices using a guide. The problem with the automatic generating

of the wireless web pages is that web pages are often not static. In other words, if the content and

format of the HTML page does not change, then it may be referred to as static. On the other

15    hand, if the content or format of the HTML page changes, it is dynamic and the guide that was

used originally to process the HTML web page is useless once the web page has changed.

Thus, generalization is the process of applying the content selection and formatting of one

element to other similar elements in the web page and being able to generate a guide that can handle

when a web page is dynamic. In particular, generalization may take into account that elements

20    targeted for generalization may occur an arbitrary number of times within an XHTML page. The

result is that generalization forces the guide for the web page processing, such as XSL, to account for

this by applying templates to similar elements in order to treat them in the same way. Today, there is

no known method or system for performing this generalization process. To better understand the

context of the generalization process, an overview of the evolution of different mark-up languages,

5    their benefits and their drawbacks will be described briefly.

Standard Generalized Markup Language (SGML) created the first common standard for

describing the structure and organization of an electronic document. SGML does not promote

one specific structure, but rather allows for customized tag sets. As a result, it has become the

primary basis of many more specialized programming languages. HTML (Hypertext Markup

10   Language) and XML (Extensible Markup Language) were developed from SGML.

HTML was developed as the World Wide Web was coming to prominence. As

hyperlinks became more common in site design, the hierarchical structure of documents became

less important. The Web also gained more corporate and individual users. Reflecting this,

HTML tags shifted focus to address the visual presentation of information rather than its

15   structure. This was not altogether a successful shift, and browser and plug-in problems prompted

the branching of HTML into different versions (HTML 4 and HTML Strict), which address

presentational and structural issues separately.

As developers recognized that document presentation and structure required different

tools, XML emerged. XML has become a powerful alternative on specialized tasks where

20   HTML is difficult to use. While HTML offers a pre-defined set of tags, XML allows developers

to define their own markup elements. Using XML, developers can store and structure document